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## Naval Facilities Engineering Command

# **Abstract of an Accident**

99-03

ACCIDENT TYPE: Electrical Mishap  
INJURY: Shock  
TYPE OF WORK: Relocating Outdoor Condenser Unit

### **DESCRIPTION OF ACCIDENT:**

While relocating an outdoor condenser unit for a 2-ton split A/C a contractor electrician received an electric shock when he attempted to cut a live electrical wire. The injured electrician suffered cardiac and respiratory arrest as a result of the shock. CPR was performed by co-workers, Navy personnel from nearby spaces and by the base medical department. He was revived and transported to a local hospital where he spent a week recovering before returning to work.

### **DIRECT CAUSE:**

- ◆ Lock-out tag-out procedures were not followed properly. The circuit breaker and double pole switch for the A/C unit is located inside a secure space not readily accessible for contractor access. The contractor requested that a Navy security escort go inside the secure space and switch off the double pole isolator switch for the A/C unit. No attempt was made to secure the breaker (lock-out) or tag either the double-pole switch or the breaker to prevent accidental energizing of the circuit (tag-out).
- ◆ The injured electrician was standing on an aluminum stepladder and working in close proximity to a steel ISO shipping container, both good conductors that may have increased the severity of the shock he received. No insulating material such as rubber matting was used.

### **INDIRECT CAUSE:**

- ◆ Inadequate contractor hazardous energy control plan.
- ◆ Failure to consider restricted access to energy control devices.
- ◆ Failure to "lock-out" the system and "tag-out"

### **LESSONS LEARNED:**

- ◆ Contractor's hazardous energy control procedures must be submitted and accepted by the ROICC prior to start of work.
- ◆ Current lock-out tag-out procedures need to be strictly followed by contractors.
- ◆ ROICC offices should ensure that lock-out tag-out is emphasized in contractor safety meetings and enforced at the site.
- ◆ Contractors need to strictly observe the requirement to coordinate power outages with appropriate base personnel and the ROICC.

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